

U.S.S.N. 10/761,654

Claim Amendments

Please amend claims 1, 9, 10 and 13 as follows:

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Listing of Claims

1. (Currently amended) A method of cleaning a process chamber to reduce an amount of nitrogen trifluoride to remove silicon nitride and/or silicon oxide deposits, comprising the steps of:

providing a gas mixture comprising nitrous oxide and nitrogen trifluoride without the addition of hydrogen and nitrogen gas in wherein [(a)] said nitrous oxide:nitrogen trifluoride volume ratio [(of)] is at least about 0.2;

maintaining a temperature of from about 65°C to about 300°C in said process chamber;

introducing said gas mixture into the process chamber;  
and

generating a plasma from said gas mixture to clean said chamber.

2. (Original) The method of claim 1 further comprising the step of providing an inert carrier gas in said gas mixture.

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3. (Original) The method of claim 1 wherein said nitrous oxide:nitrogen trifluoride volume ratio is from at least about 0.2 to about 0.8.

4. (Original) The method of claim 3 further comprising the step of providing an inert carrier gas in said gas mixture.

5. (Original) The method of claim 2 wherein said inert carrier gas comprises argon.

6. (Original) The method of claim 5 wherein said nitrous oxide:nitrogen trifluoride volume ratio is from at least about 0.2 to about 0.8.

7. (Original) The method of claim 2 wherein said inert carrier gas comprises helium.

8. (Original) The method of claim 7 wherein said nitrous oxide:nitrogen trifluoride volume ratio is from at least about 0.2 to about 0.8.

9. (Currently amended) A method of cleaning a process chamber, comprising the steps of:

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providing a gas mixture comprising consisting essentially of nitrous oxide, and nitrogen trifluoride, and optionally an inert carrier gas in wherein [taj] said nitrous oxide:nitrogen trifluoride volume ratio [[of]] is at least about 0.8:0.2;

introducing said gas mixture into the process chamber;  
and

generating a plasma from said gas mixture ~~using a radio frequency power of from about 1 watt/cm<sup>2</sup> to about 20 watts/cm<sup>2</sup> to clean said chamber.~~

10. (Currently amended) The method of claim 9 further comprising the step of providing adding an inert carrier gas in to said gas mixture.

11. (Original) The method of claim 10 wherein said inert carrier gas comprises argon.

12. (Original) The method of claim 10 wherein said inert carrier gas comprises helium.

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13. (Currently amended) A method of expediting cleaning of a process chamber and reducing an amount of using nitrogen trifluoride, comprising the steps of:

forming a gas mixture by adding nitrous oxide to the nitrogen trifluoride in a nitrous oxide:nitrogen trifluoride volume ratio of at least about 0.2, said gas mixture formed without the addition of hydrogen and nitrogen gas;

maintaining a temperature of from about 65°C to about 300°C in said process chamber;

introducing said gas mixture into the process chamber; and

forming nitric oxide radicals and fluoride radicals in the process chamber by generating a plasma from said gas mixture using a radio frequency power of from about 1 watt/cm<sup>2</sup> to about 20 watts/cm<sup>2</sup>.

14. (Original) The method of claim 13 further comprising the step of providing an inert carrier gas in said gas mixture.

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15. (Original) The method of claim 13 wherein said nitrous oxide:nitrogen trifluoride volume ratio is from at least about 0.2 to about 0.8.

16. (Original) The method of claim 15 further comprising the step of providing an inert carrier gas in said gas mixture.

17. (Original) The method of claim 13 wherein said nitrous oxide:nitrogen trifluoride volume ratio is at least about 0.8.

18. (Original) The method of claim 17 further comprising the step of providing an inert carrier gas in said gas mixture.

19. (Original) The method of claim 18 wherein said inert carrier gas comprises argon.

20. (Original) The method of claim 18 wherein said inert carrier gas comprises helium.